Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (Currently amended) A method for treating multiple sclerosis in a subject, the method comprising the step of administering to the subject a therapeutically effective amount of a pharmaceutical composition comprising an ADNF III polypeptide ~~comprising an active core site having~~ consisting of the following amino acid sequence: Asn-Ala-Pro-Val-Ser-Ile-Pro-Gln (SEQ ID NO:2); thereby treating multiple sclerosis in the subject.

2. (Withdrawn) The method of claim 1, wherein the ADNF polypeptide is a member selected from the group consisting of a full length ADNF I polypeptide, a full length ADNF III polypeptide, and a mixture of a full length ADNF I polypeptide and a full length ADNF III polypeptide.

3. (Withdrawn) The method of claim 1, wherein the ADNF polypeptide is an ADNF I polypeptide.

4. (Withdrawn) The method of claim 3, wherein the active core site of the ADNF I polypeptide comprises at least one D-amino acid.

5. (Withdrawn) The method of claim 3, wherein the active core site of the ADNF I polypeptide comprises all D-amino acids.

6. (Withdrawn) The method of claim 3, wherein the ADNF I polypeptide is Ser-Ala-Leu-Leu-Arg-Ser-Ile-Pro-Ala (SEQ ID NO:1).

7. (Withdrawn) The method of claim 3, wherein the ADNF I polypeptide is selected from the group consisting of:

Val-Leu-Gly-Gly-Gly-Ser-Ala-Leu-Leu-Arg-Ser-Ile-Pro-Ala (SEQ ID NO:3);

Val-Glu-Glu-Gly-Ile-Val-Leu-Gly-Gly-Gly-Ser-Ala-Leu-Leu-Arg-Ser-Ile-Pro-Ala (SEQ ID NO:4);

Leu-Gly-Gly-Gly-Ser-Ala-Leu-Leu-Arg-Ser-Ile-Pro-Ala (SEQ ID NO:5);

Gly-Gly-Gly-Ser-Ala-Leu-Leu-Arg-Ser-Ile-Pro-Ala (SEQ ID NO:6);

Gly-Gly-Ser-Ala-Leu-Leu-Arg-Ser-Ile-Pro-Ala (SEQ ID NO:7);

Gly- Ser-Ala-Leu-Leu-Arg-Ser-Ile-Pro-Ala (SEQ ID NO:8); and

Ser-Ala-Leu-Leu-Arg-Ser-Ile-Pro-Ala (SEQ ID NO:1).

8. (Withdrawn) The method of claim 3, wherein the ADNF I polypeptide comprises up to about 20 amino acids at at least one of the N-terminus and the C-terminus of the active core site.

9. (Canceled)

10. (Canceled)

11. (Canceled)

12. (Currently amended) The method of claim 1, wherein ~~the active core site of~~ the ADNF III polypeptide comprises at least one D-amino acid.

13. (Currently amended) The method of claim 1, wherein ~~the active core site of~~ the ADNF III polypeptide comprises all D-amino acids.

14. (Canceled)

15. (Canceled)

16. (Canceled)

17. (Previously presented) The method of claim 1, wherein the pharmaceutical composition further comprises an ADNF I polypeptide comprising an active core

site having the following amino acid sequence: Ser-Ala-Leu-Leu-Arg-Ser-Ile-Pro-Ala (SEQ ID NO:1).

18. (Currently amended) The method of claim 17, wherein ~~either or both active core sites~~ the active core site of the ADNF I polypeptide and/or the ADNF III polypeptide comprise at least one D-amino acid.

19. (Currently amended) The method of claim 17, wherein ~~either or both active core sites~~ the active core site of the ADNF I polypeptide and/or the ADNF III polypeptide comprise all D-amino acids.

20. (Currently amended) The method of claim 17, wherein the ADNF I polypeptide is Ser-Ala-Leu-Leu-Arg-Ser-Ile-Pro-Ala (SEQ ID NO:1)~~, and wherein the ADNF III polypeptide is Asn-Ala-Pro-Val-Ser-Ile-Pro-Gln (SEQ ID NO:2)~~.

21. (Currently amended) The method of claim 17, wherein the ADNF I polypeptide is a member selected from the group consisting of:

Val-Leu-Gly-Gly-Gly-Ser-Ala-Leu-Leu-Arg-Ser-Ile-Pro-Ala (SEQ ID NO:3);

Val-Glu-Glu-Gly-Ile-Val-Leu-Gly-Gly-Gly-Ser-Ala-Leu-Leu-Arg-Ser-Ile-Pro-Ala (SEQ ID NO:4);

Leu-Gly-Gly-Gly-Ser-Ala-Leu-Leu-Arg-Ser-Ile-Pro-Ala (SEQ ID NO:5);

Gly-Gly-Gly-Ser-Ala-Leu-Leu-Arg-Ser-Ile-Pro-Ala (SEQ ID NO:6);

Gly-Gly-Ser-Ala-Leu-Leu-Arg-Ser-Ile-Pro-Ala (SEQ ID NO:7);

Gly- Ser-Ala-Leu-Leu-Arg-Ser-Ile-Pro-Ala (SEQ ID NO:8); and

Ser-Ala-Leu-Leu-Arg-Ser-Ile-Pro-Ala (SEQ ID NO:1)~~; and wherein the ADNF III polypeptide is selected from the group consisting of:~~

~~Gly-Gly-Asn-Ala-Pro-Val-Ser-Ile-Pro-Gln (SEQ ID NO:9);~~

~~Leu-Gly-Gly-Asn-Ala-Pro-Val-Ser-Ile-Pro-Gln-Gln-Ser (SEQ ID NO:10);~~

~~Leu-Gly-Leu-Gly-Gly-Asn-Ala-Pro-Val-Ser-Ile-Pro-Gln-Gln-Ser (SEQ ID NO:11);~~

~~Ser-Val-Arg-Leu-Gly-Leu-Gly-Gly-Asn-Ala-Pro-Val-Ser-Ile-Pro-Gln-Gln-Ser (SEQ ID NO:12); and~~

~~Asn-Ala-Pro-Val-Ser-Ile-Pro-Gln (SEQ ID NO:2)~~.

22. (Currently amended) The method of claim 17, wherein the ADNF I polypeptide comprises up to about 20 amino acids at one or both of the N-terminus and the C-terminus of the active core site of the ADNF I polypeptide~~, and wherein the ADNF III polypeptide comprises up to about 20 amino acids at one or both of the N-terminus and the C-terminus of the active core site of the ADNF III polypeptide~~.

23-25. (Canceled)

26. (Previously presented) The method of claim 1, wherein the pharmaceutical composition is administered intranasally.

27. (Previously presented) The method of claim 1, wherein the pharmaceutical composition is administered orally.

28. (Previously presented) The method of claim 1, wherein the pharmaceutical composition is injected.

29. (Canceled)

30. (Previously presented) The method of claim 1, wherein administration of the ADNF III polypeptide results in decreased frequency of myelin basic protein (MBP)-reactive T-cells, reduced proliferation of MBP-reactive T-cells, or reduced levels of tumor necrosis factor (TNF) and interferon-α in the subject.